

BENCHMARKS

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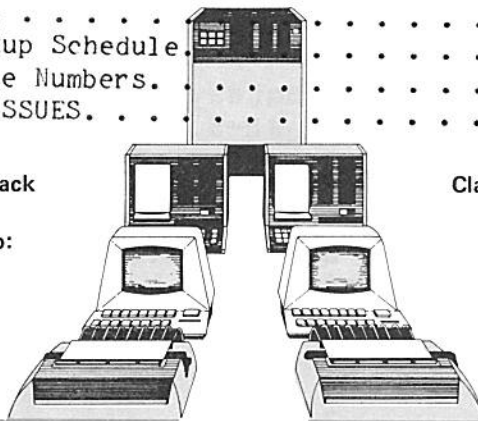
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Services Available To Users Of The NTSU Computing Facilities

All people mentioned below may be contacted by calling
(817) 565-2324:

Information and Project Numbers- Carolyn Goodman in the
Computing Center reception Area, ISB 119.

Newsletter Questions/Contributions/etc. - Claudia Putnam.

Statistical/Research Support (provided for graduate students
and faculty members) - Bob Brookshire, George Morrow,
Claudia Putnam, and Mohamad Salahshoor.

Non-Research Student Programming Problems - student consultants
from the Computer Science Department, found in ISB 134A
near dispatch and the user keypunch area. Student
consulting provided by the College of Business is
available at the BA Computing Access Facility.

JCL and Debugging Problems - Mohamad Salahshoor.

Pre-Research Counseling, Including Survey Instrument Design -
Bob Brookshire, George Morrow, and Claudia Putnam.

Data Entry to MUSIC, Keypunch Requests and Questions Regarding
Layout of Keypunch Sheets; Interpreting - Betty Grise,
ISB 227.

Test Scoring and Analysis - Betty Grise.

Academic Timesharing Information and/or Problems HP/2000 and
AS/5000 MUSIC (McGill University System for Interactive
Computing) information and problems, including terminal
problems - Mohamad Salahshoor.

Administrative Applications - Coy Hoggard.

AS/5000 Computer Hardware/Software/Billing Problems - Sandy
Franklin.

JOB Submission and Retrieval - RJE Operators.

Spring Computing Hours

Computing facilities will be open during the following times
throughout the Fall semester (not applicable to holidays):

Computing Center RJE: 7 AM-4 AM, Monday-Friday; 8 AM-MN
Saturday; Noon-MN Sunday.

College of Business RJE: 8:15 AM-MN, Monday-Saturday;
12:15 PM-MN, Sunday

Media Library (GAB): 8 AM-MN, Monday-Thursday; 8 AM-6 PM
Friday; 11 AM-5 PM Saturday; 4 PM-10 PM
Sunday.

The Computer Room and student keypunch/terminal area (ISB) are
open 24 hrs/day Mon.-Fri., 8 AM-MN Sat. and Noon-MN Sun. System
Backups (see this issue for schedules) and backlog processing
are done between the hours of 8 AM and Midnight, Mon.-Sat..

STATUS REPORT ON COMPUTING AT NTSU
by Thomas Wm. Madron

The Local Area Network

As many people have noted, cabling the campus for the cable television system (CATV), which will serve as the basis for the Local Area Network (LAN) for data communications and on-campus television origination and distribution, is well underway. The "trunk-line" (the cable which connects all the buildings on campus) has been installed and certified as operational. The wiring of the first eight buildings has started and should be completed sometime in May. The design of the next twenty-three buildings to be wired is underway and bids for the wiring contract will take place in about two weeks.

The CATV system will serve as the medium over which data will be transmitted and received. The actual data communications equipment is being acquired from Sytek, Inc., of California. The Sytek LocalNet 20 will allow extensive connectivity of devices at relatively high speed. That is, most terminals on the campus will be able to communicate with most computers. In the event that microcomputers are being used as terminals, users can establish sessions between the microcomputers. At some point in the not too distant future, in addition to NTSU's IBM compatible computer (an AS/5000) and two Digital Equipment Corporation VAX 11/780 minicomputers, dedicated computers such as the system used by the Print Shop or the Library will be on-line for special purpose functions.

Not long ago I distributed a memorandum to account authorities concerning the cost of the Sytek modems needed to make a connection with the Local Area Network. I am happy to announce that a price reduction has taken place, as of April 15. The modems come in two flavors: one with two ports (model 20/100) and one with eight ports (model 20/200). Each port allows the connection of one device, such as a terminal. The two ported unit, model 20/100 has been reduced in price from \$1290 to \$1090 and the eight ported unit, the 20/200, has been reduced from \$4200 to \$3750.

The VAX 11/780 Computers

The University, as part of the general upgrade of computing facilities, has acquired three Digital Equipment Corporation VAX 11/780 "minicomputers". The VAXs were recently installed and are now undergoing testing. Two of the VAXs will be operated as general purpose interactive computers by the Computing Center. The third VAX is designed primarily as an experimental and research machine and is being administered by the Computer Science Department on behalf of the Computing Center and the University. The date on which the VAXs will become generally available for use across the campus is dependent largely on when our contractors complete the installation of the CATV system for the Local Area Network.

The current time schedule on which we are working in order to make the VAXs available for large-scale use is as follows:

Access with limited support	May 1
Access with complete support	June 1

During the period from about May 1 to about June 1, users may have access to the VAXs with terminals located in the fifth floor terminal access

area. After May 1, you may obtain a user ID for the VAXs by calling Academic Computing at 2324. As the buildings with other access areas come on-line on the Local Area Network, better access will be available.

PLANNING FOR DIAL-UP PORTS

The Computing Center recently sent out a questionnaire to faculty, staff, and students in an attempt to ascertain their plans for use of the dial-up facilities available for accessing the various computer systems. Following are some of the results:

- 405 people responded to the questionnaire; 65 faculty members, 19 staff members, 179 undergraduate students, 137 graduate students and 5 people who classified themselves as "other".
- 90 people said they planned to use the dial-up facilities for less than one year, 239 people said they planned to use them for one to five years, and 66 people said they planned to use them for over five years.
- 354 people planned to use the dial-up facilities to access the IBM compatible computer (the AS-5000, for now), 123 people planned to access the HP-2000, and 171 people planned to access the VAX11/780's.
- 128 people plan to use a terminal to access the computer(s), 105 people plan to use a microcomputer, and 162 people plan to use both a terminal and a microcomputer.
- 296 people expressed an interest in having 1200 baud dial-up lines, 85 people were not interested.
- Of the people who were interested in 1200 baud dial-up lines, 90 said that they were very likely to purchase a 1200 baud modem, 143 people said they were somewhat likely to buy a 1200 baud modem, and 68 people said they would not buy a modem.
- 309 people reported that they would use the dial-up facilities primarily for class work, 23 people said they would be doing work on their thesis/dissertation, 58 people said they would be doing faculty research, and 10 people said their work fell mainly in the other category.
- 109 people said they would be calling the computer(s) from their homes, 82 said they would be calling from campus, and 203 said they would be calling from both their homes and the campus.
- 120 people said that they would be using the dial-up ports primarily from 8 AM to 5 PM, and 270 people said their use would be mainly after 5 PM.
- 96% of the people said that they would be using the dial-up facilities 30 hours a week or less.

- 85 people reported having a terminal in their possession, 106 reported having a microcomputer, and 204 said that they had neither a terminal or a microcomputer.
- 257 people said they bought or intend to buy either a terminal or a microcomputer, and 78 people said they rent or intend to rent either a terminal or a microcomputer.

NTSU FEATURED IN COMPUTERWORLD SPECIAL REPORT*

The March 28 issue of Computerworld a national "newsweekly for the computer community," contained a Special Report section on "Micros in Big Business." One of the articles in this section was "Minis Weave Elaborate Net Over Texas Campus" by our own Thomas Madron, Manager of Academic Computing Services.

*See Computerworld Vol. XVII, No. 13, pages 35-36.

1983 NATIONAL COMPUTER CONFERENCE

Those of you who are going to be in the vicinity of Anaheim California between May 16th and 19th should stop by the National Computer Conference. The theme this year is "The Emerging Information Age: Computers, Communications, and People." There will be over 320,000 net square feet of exhibits, utilizing the Anaheim and Disneyland Hotel Convention Centers. For more information, contact Claudia Putnam in the Computing Center (565-2324).

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* O P E R A T I O N S *

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Backup Schedule for OS/MVT

OS/MVT disk packs (Academic and Administrative) are backed up daily, Tuesday through Saturday, from 4-6:30 AM, and Sunday from Midnight to 3 AM. A backup of all the operating systems and their contents is done once every two weeks at some low activity period over the weekend.

Altered Hours of Operation

The following hours will be in effect during Finals Week, May 9 -13:

Computing Center RJE : OPEN Monday-Friday 7 AM - 4 AM
College of Business RJE : OPEN Monday-Friday 8:15 AM - Midnight
Media Library : OPEN Monday-Thursday 8-Midnight
Sunday 4PM - 10PM

The following hours will be in effect during Semester Break, May 14-31:

Computing Center RJE : OPEN Monday-Saturday 8 AM-Midnight
CLOSED May 15, 22 & 29
College of Business RJE : CLOSED
Media Library : OPEN May 14, 11 AM-5 PM
CLOSED May 15
OPEN Monday-Friday 8 AM-5 PM
CLOSED Saturday & Sunday

AS/5000 March Performance Summary

System Type	Operating Hours Scheduled (OHS)	Maintenance Hours Planned (MHP)	Production Hours Planned (PHP)	Maintenance Hours Unplanned (MHU)	Actual Production Hours (APH)	System Uptime (SU)
VM/SP	744	6.72	737.28	6.12	731.16	99.2%
MUSIC	744	61.26	682.74	12.04	670.70	98.2%
OS/MVT	649	2.70	646.30	11.45	634.85	98.2%
COMPLETE	213	1.57	211.43	10.66	200.77	95.0%
ADABAS	213	1.63	211.37	9.65	201.72	95.4%

NOTE 1: CPU availability will be approximately equal to VM's % Uptime.

NOTE 2: SU = APH/PHP

NOTE 3: APH = PHP - MHU

NOTE 4: PHP = OHS - MHP

NOTE 5: OHS = PHP + MHP

NOTE 6: MUSIC's PLANNED MAINTENANCE HOURS includes 54.01 hours of system backup time

Lost productivity is calculated on the greatest amount of elapsed time that any one of the production systems was unavailable for scheduled operation.

Lost Productivity Hours can be contributed to the following key causes:

CPU, Tape, and Disk Subsystems (NAS)

1. CPU Interruptions	5.31 Hours
2. 7330 DASD Failures	0.15 Hours
3. Scheduled Maintenance	<u>7.30 Hours</u>
TOTAL	12.76 Hours

Electrical & A/C Interruptions

1. Power Failure (1)	0.42 Hours
----------------------	------------

Terminal Control Systems (MEMOREX)

1. 1270 TCU Malfunctions	5.37 Hours
--------------------------	------------

Miscellaneous

1. Undetermined Causes for System Restarts	4.17 Hours
2. MVT Initiator Failures	3.41 Hours
3. COM_PLETE Program Failure	1.26 Hours
4. ADABAS Program Failure	1.00 Hours
5. COM_PLETE/ADABAS Program Maintenance	<u>1.07 Hours</u>
TOTAL	<u>10.91 Hours</u>
GRAND TOTAL	29.46 Hours

Computer Science Consultants Move

The consultants that were in ISB 134B (the Computing Center Dispatch Area) have moved to GAB 333.

Tape Services

The last BENCHMARKS, Volume 4, Number 1, announced the installation of UCC1 (TMS), an automated tape management system. Computer Operations provides the following services for users who wish to do tape processing:

- Privately-owned tapes will be copied to Computing Center (TMS-controlled) tape volumes. User's tapes should be in the no label (NL) or IBM standard label (SL) format.
- TMS-controlled tapes will be copied to user's privately-owned tape volumes. These private tapes must be picked up by the user; Operations will not store privately-owned tapes. When necessary, Operations will initialize user's tapes to no label (NL) or IBM standard label (SL) format.
- Operations will approve the scheduling and processing of user's privately-owned tapes. This approval must be obtained before submitting the job or the job will be cancelled. If the tape must be

mounted more than once, the user should have the tape copied to a TMS-controlled volume.

- Updates will be made to the TMS catalog. Any updates will require positive identification of the user and certification of ownership. Users must obtain TMS catalog information by running the following job:

```
//jobname JOB (xxxx-yyyy,:01,1),name,CLASS=A
// EXEC TMSINFO
//SYSIN DD *
VOL=ZZZZZZ
/*
```

where ZZZZZZ is the volume serial number of the tape.

Approval for mounting non-TMS tapes and copying private tapes to TMS controlled tapes and vice versa may be obtained by contacting Craig Moore at 565-4163.

Important Note for Tape Users

If your job abends during a job step that writes on your tape, TMS will automatically assign that tape a five day protection period. After this five day period, your tape will no longer be reserved and will be returned to the scratch pool.

If you do not want your tape scratched and would like to extend the reservation period in this situation, fill out a TMS Request Sheet. These forms are available in the Computing Center RJE area (ISB 134). The form must be filled out, specifying a new expiration date, before the five day period is over to avoid having your tape scratched.

For information on the status of your tape, including the expiration date, execute TMSINFO, mentioned above.

Print Wheels for the Diablo

The Computing Center, as reported in the last BENCHMARKS, has made a DIABLO printing terminal available at the RJE in the ISB to anyone who needs quality upper and lower case output. These terminals have removable print wheels with a variety of type faces. Should you need a type face that is not available here, you can purchase a print wheel from an office supply store for a relatively small amount of money.

PROCESSING OUTPUT WITH SPECIAL FORMS PARAMETER IN HASP JOB CARD

Utilizing the Special Forms Parameter in the HASP Job Card allows the programmer to request special printer setup by utilizing a numeric code

to control the mounting of alternate print trains (character sets), standard stock forms, and special form stock as well. Unless the numeric code can not satisfy a particular printer setup, the Special Handling Card will not be required when using the HASP Special Forms ID Code. For example: A requirement for using a carbon ribbon, nonstandard alignment of forms, or special distribution of a report, would require providing the operator with "written" special handling instructions to process the job and obtain charge information to bill the user for special services.

The use of the Special Forms ID Code in the HASP Job Card does not eliminate the need for the "SYSOUT=(A,,form#)" in the Data Definition (DD) card. This step is necessary to allow the operator to print the HASP Header Listing and the JCL on standard (STD) one part form and then load in any special form that is not 132 character standard width. Anytime an operator allows a job to print "on the hammers" by loading a form that is too narrow to catch all characters, there is a risk of damaging the print train and/or the print hammers.

The Special Form ID Code in the HASP Job Card must be all numeric and consists of four (4) digits specified as follows:

Digit 1: 0 - Standard Print Train (PN)
1 - Special Text Print Train (ALA)
2 - PN Print Train with eight (8) lines per inch.
3 - ALA Print Train with eight (8) lines per inch.
4 - SCRIPT Text Print Train (TN)
5 - TN Print Train with eight (8) lines per inch.

Digit 2: 0 - Standard Wide Stock Form
1 - Narrow Stock Form
2 - Short Stock Form
3 - Mailing Label Stock Form

Digit 3: 0 - Standard Stock Lined Form (Green and White)
1 - Blank Stock Form (White and Unlined)
2 - Reversed Stock Lined Form (Backside)
3 - One-Across Mailing Labels (1-UP)
4 - Three-Across Mailing Labels (3-UP)
5 - Four-Across Mailing Labels (4-UP)
6 - Five-Across Mailing Labels (5-UP)

Digit 4: 1 - One Part Form
2 - Two Part Form
3 - Three Part Form
4 - Four Part Form

NOTE: Form ID 9999 may be used to refer to "written" special processing instructions that have been supplied to the operator. However, the "SYSOUT=(A,,form#)" Data Definition (DD) step is still required to mount a special form.

Example setups for using the Special Form ID and the SYSOUT=(A,,form#) parameters follows:

EXAMPLE 1: //jobname JOB (xxxx-yyyy,,,5111),username
 : : : : : : : : : : : :
 //stepname.ddname DD SYSOUT=(A,,NBS1)

This example specifies that the TN (SCRIPT) Train is to

be mounted and then one part narrow blank stock form loaded when the operator receives the "NBS1" form mount.

EXAMPLE 2: //jobname JOB (xxxx-yyyy,,,2102),username
 : : : : : : : : : : : :
 //stepname.ddname DD SYSOUT=(A,,NS01)

This example specifies that the PN Train is to be used in printing two part narrow stock lined form (NS01) with the carriage control set to eight (8) lines per inch when the operator receives the "NS01" form mount.

A description of the more commonly used forms and the corresponding form number's for coding the Data Definition (DD) card SYSOUT parameter is in the following list:

- NBS1 -- One part stock, 9 7/8" X 11" plain white form. 1/2" left, 7/8" right perforations.
- NS01 -- One part stock, 10 5/8" X 11" green lined form. No perf.
- WBS1 -- One part stock, 14 7/8" X 11" plain white form. No perf.
- LBL1 -- Self adhesive tabulabels, TAB4015 SW, 3.5" X 15/16", one across, standard 6 LPI spacing.
- LBL5 -- Self adhesive tabulabels, TAB4015 MW-5, 2.5" X 15/16", five across, standard 6 LPI spacing.
- SS01 -- One part stock, 8 1/2" X 3 1/2" plain white form, with 1/2" right perforation.

NOTE: Mailing labels, multi-part forms, and most nonstandard forms are billable to the user. However, a user may supply their own mailing labels and nonstandard forms.

For additional information regarding special printer setup or requirements for using special forms, contact Computer Operations.

ICPSR SUMMER PROGRAM

The Inter-University Consortium for Political and Social Research (ICPSR) was created in 1962 as a partnership between the Institute for Social Research of the University of Michigan and over 150 universities, colleges, and nonprofit research organizations in the U.S. and abroad. Its purpose is to act as an inter-disciplinary, inter-university research and training facility for the social sciences. One of its major activities is the provision, each summer, of a training program in quantitative methods of social research. This program emphasizes:

1. the study of methods of quantitative analysis within the broader context of substantive social science research;
2. the coordination and reinforcement of instruction with active data analysis experience.

The program is divided into two four-week sessions, with instruction arranged in lecture, seminar, and workshop formats. In addition, the curriculum includes special workshops, some pertinent to your discipline, that provide participants with an opportunity to examine the impact of various methodologies on specific substantive areas. Candidates for the Summer Program may be either faculty or graduate students. For further information or application forms, please contact Bob Brookshire, the NTSU ICPSR Organizational Representative, in the Information Science Building, room 224, or at 565-2324. Interested scholars are strongly encouraged to take advantage of this opportunity.

Using The Computer for Research: Part X -
Writing Data to Tape, Disk or Cards: The FT09F001 DD Statement
by Bob Brookshire

This article is the tenth in a series of articles on computing and data analysis. The previous articles appeared in BENCHMARKS Volume 3, Numbers 2-9, and Volume 4, Number 1.

Several SPSS procedures offer, as options, the ability to write to tape or disk various forms of data, such as means and standard deviations, factor scores, or correlation matrices. As with the SAVE FILE command, this requires the creation of a file on tape or disk with a DD statement in the job control portion of the program. This DD statement should have the ddname FT09F001, and otherwise has the same form as other DD statements, described in the previous article in this series, and in the discussion of the SAVE FILE command above.

It is possible to direct output data to magnetic disk, magnetic tape, punched cards, or to the printer, to be printed on computer paper. Just where the output will go is determined by the parameters of the FT09F001 DD statement. If it is to go to disk or tape, this DD statement should have the same format as those discussed in the previous article in this series, and in the discussion of the SAVE FILE command, above. If you want your output to be punched on cards, the FT09F001 DD statement should have only the parameters SYSOUT=B,DCB=BLKSIZE=80. This tells OS/MVT that the "file" being created is to be punched on cards (SYSOUT=B), and that the records in the file should not be larger than 80 columns, the size of a punched card (DCB=BLKSIZE=80). If you do not include the FT09F001 DD statement in your job control language, the output data will be printed at the end of your SPSS printout. Table 1.20 shows examples of the FT09F001 DD statement for writing raw output data to disk, tape and punched cards.

TABLE 1.20

Example FT09F001 DD Statements

For Magnetic Disk:

```
//FT09F001 DD DSN=USER2.D1234.P5678.OUTPUT,UNIT=SYSDA,  
// VOL=SER=ACAD00,SPACE=(1600,(100,100),RLSE),  
// DISP=(NEW,KEEP,DELETE)
```

TABLE 1.20 Continued

For Magnetic Tape:

```
//FT09F001 DD DSN=CORR.MATRIX,UNIT=TAPE9,LABEL=(1,SL),  
// VOL=SER=100000,DISP=(NEW,KEEP,DELETE)
```

For Punched Cards:

```
//FT09F001 DD SYSCUT=B,DCB=BLKSIZE=80
```

In the first example, SPSS will put the output data in a file called USER2.D1234.P5678.OUTPUT on the magnetic disk ACAD00. Space must be allocated for this file, as with the SAVE FILE command. In this instance, however, the first number in the SPACE parameter should not be 2012, but rather some number that is a multiple of 80, since SPSS writes output data in 80 column records. See the discussion of the FT04F001 DD statement for more about the SPACE parameter.

In the second example, the output data will be written in a file called CORR.MATRIX on a magnetic tape. It will be the first file on a tape with IBM standard labels, called 100000. See the article in BENCHMARKS (Volume 4 Number 1), "Tape Management System Installed", for more information about tapes.

In the third example, the output data will be punched on cards.

SPSS Error Messages

The SPSS program is written for users who are not computer programmers, and it is expected that you will make errors in SPSS program control statements. Consequently, the program will, if it encounters control statements that it cannot interpret, print a fairly detailed description of the error so that you can correct it. Suppose, for example, that we had made a couple of typing errors in the example program in Table 1.14, entering GINDER instead of GENDER as a variable name in the MISSING VALUES statement, and leaving out a parenthesis on one of the RECODE statements. Table 1.14 shows how SPSS would report the errors that it has discovered. In the program output, as SPSS encounters a statement that it does not recognize or that is not formatted correctly, the program prints a message immediately after the statement it has trouble with. If the problem was caused by a symbol or letter SPSS does not recognize, it prints the machine language (hexadecimal) representation of that symbol or letter. It then prints an error number associated with the problem. SPSS immediately stops processing, and will not perform any statistical procedures after it has encountered an error. It does, however, continue to read and interpret the program control statements, checking for further errors. When SPSS encounters the READ INPUT DATA statement, it stops reading any further, and prints a list of the errors it has encountered.

TABLE 1.21

Example SPSS Error Messages

6 MISSING VALUES STUDENT (99) GINDER (0)
THE SYMBOL 'GINDER' HAS CAUSED AN ERROR
IN HEXADECIMAL, 'C7C9D5C4C5D94040'

ERROR NUMBER.. 56. PROCESSING CEASES,
ERROR SCAN CONTINUES

8 RECODE GENDER ('M' = 1 ('F' = 2)

ERROR NUMBER.. 201. PROCESSING CEASES,
ERROR SCAN CONTINUES

12 READ INPUT DATA

FURTHER DIAGNOSTICS WOULD BE MISLEADING, RUN ABORTED

The second part of Table 1.21 shows the last page of the program printout. It is on this page that the errors discovered by SPSS are reported, by number, along with a diagnosis of what has caused the problem. Thus, the first error message is useful for locating which statement in your program caused the error, and the last page of the printout gives some idea of what to do about it.

TABLE 1.21

Example SPSS Error Messages Continued

LIST OF SPSS ERROR MESSAGES ENCOUNTERED DURING THE RUN

ERRNO= 56
A VARIABLE LIST ON THE 'MISSING VALUE' OR
'ASSIGN MISSING' CARD IS INVALID

ERRNO= 201
THE FORMAT OF THE 'RECODE' OR 'COUNT' CARD
IS INCORRECT

NORMAL END OF JOB
12 CONTROL CARDS WERE PROCESSED
2 ERRORS WERE DETECTED

Conclusion

This concludes my brief introduction to SPSS. It should be clear that any extensive use of this statistical package requires the purchase of

the SPSS Manual, which provides a much more detailed discussion of many of the topics presented here. The section in the SPSS Manual entitled Job Control Language for IBM OS/370 Installations provides further information that is, for the most part, applicable to the OS/MVT operating system. The presentation here should enable you to run simple analyses without too much trouble, however. The last two tables in this article provide lists of some of the facilities SPSS provides, and may prove useful to you if you do not know what statistical procedure to choose.

TABLE 1.22

List of SPSS Statistical Procedures

Procedure Name	Type(s) of Analysis
CONDESCRIPTIVE FREQUENCIES	descriptive statistics frequency distributions, descriptive statistics
AGGREGATE CROSSTABS	descriptive statistics for aggregate data contingency tables, measures of association
BREAKDOWN	subpopulation statistics, difference of means tests
T-TEST	t-test
PEARSON CORR	Pearson product-moment correlation
NONPAR CORR	Spearman and Kendall rank correlations
SCATTERGRAM	bivariate scatterplots, regression & correlation
PARTIAL CORR	partial correlation
REGRESSION	multiple regression
ANOVA	analysis of variance & covariance
ONEWAY	oneway ANOVA
DISCRIMINANT	discriminant function
FACTOR	factor analysis
CANCORR	canonical correlation
GUTTMAN SCALE	Guttman scale analysis
NEW REGRESSION	multiple regression (will replace REGRESSION in future releases)
MANOVA	multivariate analysis of variance & covariance
BOX-JENKINS	time series analysis
SURVIVAL	life table analysis
NPAR TESTS	nonparametric tests
MULT RESPONSE	tabulation of multiple response variables
RELIABILITY	analysis of additive scales

TABLE 1.23

List of SPSS Non-Statistical Procedures

Procedure Name -----	Function -----
LIST FILEINFO	lists contents of saved SPSS system file
LIST CASES	lists the contents of data cases
WRITE CASES	writes data cases on cards, disk, tape, etc.
WRITE FILEINFO	writes contents of saved SPSS system file on disk, tape, cards, etc.
DELETE VARS	deletes variables from SPSS system file
KEEP VARS	moves a subset of variables from one SPSS system file to another
ADD VARIABLES	adds new variables to an SPSS system file (same as above)
ADD DATA LIST	merging two or more SPSS system files
MERGE FILES	adds data cases to SPSS system files
ADD CASES	adds a subfile of data cases to SPSS file
ADD SUBFILES	deletes cases from SPSS system file
DELETE SUBFILES	reorders variables in SPSS system file
REORDER VARS	sorts data cases
SORT CASES	report writing program
REPORT	

```

* * * * *
*           *
*      S P S S      *
*           *
* * * * *

```

ISSUE: An Organization for SPSS Users

The International SPSS Software Users Exchange (ISSUE) is an independent non-profit association of SPSS users and coordinators. It is a professional organization, comprised of users from both industry and academia, which holds conferences and publishes a newsletter. Yearly membership fees are \$10 for students and \$10 for non-students. For more information contact:

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Telephone: (312) 329-2400 ext. 313

SPSS-X has Arrived

There have been rumblings for the past two years about a version of SPSS so new and different that they called it "eXtended". Well folks, it's here. Since this release represents a significant departure from the SPSS of the past, we in Academic Computing, being the kind and cautious folks that we are, have decided to leave the old SPSS on the system until the fall semester. SPSS-X will be up and running by the first summer session, giving everyone an opportunity to play around with it before it becomes the only SPSS available in the fall. For more information about SPSS-X, see BENCHMARKS, Volume 3, Number 8, page 13. The new manuals are available in the University Store.

Learning to Use SPSS-X

Thursday, May 26, 1983, SPSS Inc. and McGraw-Hill Book Company are sponsoring a FREE seminar devoted to the introduction and application of SPSS-X. This seminar will be at the Fairmont Hotel, Akard at Ross, in Dallas. You are requested to pre-register if you are interested in attending. A registration form is available from Claudia Putnam in Academic Computing, or you may call Chris Baker (312) 329-2400 for more information. All "old friends" of SPSS who plan to continue using it are urged to attend this seminar.

```
* * * * *
*           *
*       S A S       *
*           *
* * * * *
```

SUGI: An Organization for You

The last issue of BENCHMARKS contained several references to SAS Users Group International (SUGI), a non-profit organization comprised of SAS users from both the academic and business communities. SUGI is independent of SAS Institute, although the institute does furnish the organization with administrative support. All SAS users should consider joining SUGI, as it provides an avenue of communication between people who use SAS in a variety of settings, with a variety of applications. SUGI also serves as a sounding board for suggestions and/or complaints to SAS Institute. Contact SAS Users Group International, Box 8000, Cary N.C. 27511 for membership information.

PROC MATRIX: An Alternative to APL

PROC MATRIX is both a SAS procedure and a programming language. It provides a means for writing custom programs to solve problems that are not addressed by other SAS procedures. Like APL, the MATRIX programming language deals with matrices of values. Unlike APL, however, MATRIX does not require specialized character sets or special terminals. It offers 26 operators, 29 built-in functions, all the functions of the DATA step, and allows you to define your own functions. Most commonly used mathematical and matrix operations are built directly into the MATRIX programming language, and PROC MATRIX allows you to transcribe almost directly from matrix algebra notation into MATRIX program statements.

Working With Fractions

SAS uses the floating point instructions provided by the hardware for all numeric variable calculations. The computer stores floating point numbers only to a fixed precision, and fractional values that cannot be represented exactly in binary or hexadecimal are not stored exactly. Ordinarily, this is not a problem. However, in cases where fractional values are critical, the INT or ROUND function can be used to tell SAS the precision you need.

The FREQ statement in the MEANS, SUMMARY, TABULATE, and UNIVARIATE procedures always uses integer values, and will truncate values that are not integers. For a more precise representation of a variable in such a case, ROUND the frequency variable before using it.

```
* * * * *
*
*      M U S I C
*
* * * * *
```

MUSIC Backup Hours

Following are the scheduled hours for the MUSIC backup. A message will be sent to all users signed-on to MUSIC approximately 10 minutes before the backups are begun, and will be in the form: ** MUSIC SHUT DOWN AT xxxxx AM - SCHEDULED BACKUP ** To find out the backup hours while signed-on to MUSIC, enter HELP HOURS

MUSIC Backup Hours

Tuesday	3 AM (for about 3 hours)	Weekly Backup
Wednesday-Saturday	4 AM (for about 2 hours)	Daily Backup
Saturday	Midnight (for about 2 hours)	Daily Backup

New Telephone Numbers

Dial-up access to MUSIC may be obtained by dialing:

(817) 565-3499
565-3989
565-3999
565-4025
565-4030

If one number is busy, try another one.

Metro Lines to be Installed for TCOM and Metroplex Users

Eight metro lines will be available on or about May 6, 1983, so that TCOM users as well as people who live in the Metroplex can dial into the NTSU computing facilities without paying long distance charges. The Telephone number to access the metro lines will be 426-6006. Watch MUSIC news for more information about the metro lines, as there is a possibility that unforeseen circumstances may cause a delay in their availability.

SIM is Dead

A combination of problems involving loss of vendor support for the current product and escalating costs of new releases has caused the Computing Center to discontinue the usage of SIM3270, the software that allowed ASCII terminals to simulate IBM 3270 type terminals. The main advantage of this product was that it made the full screen capabilities of MUSIC and other operating systems available to people using ASCII terminals (MIME's for example). A hardware alternative to the SIM software, protocol converters, are currently in the process of being installed, and will allow users of ASCII terminals, over the Local Area Network (LAN), to simulate 3270 type terminals.

New MUSIC Manuals

The last issue of BENCHMARKS (Volume 4, Number 1) announced that MUSIC has been upgraded from Release 5.0 to Release 5.1. New manuals for both MUSIC and MUSIC/SCRIPT have been generated and should be available in the University Store by the end of this month. Update pages will be sent out to all those who mailed in requests for such.

Waterloo/SCRIPT Available Interactively on MUSIC

Waterloo/SCRIPT, a text processing program from the University of Waterloo and an evolved cousin of MUSIC/SCRIPT, has been available in batch mode on MUSIC since last November. Now an interactive version of Waterloo/SCRIPT is also available on the MUSIC operating system and works in much the same way as MUSIC/SCRIPT, except that instead of the /INCLUDE SCRIPT line that you have in your files to process MUSIC/SCRIPT commands, you would insert the line /INCLUDE WSCRIPT in your files to process Waterloo/SCRIPT commands. Additionally, if you want to use any of the options available with Waterloo/SCRIPT, like QUIET to keep the version number of Waterloo/SCRIPT from being printed as the first line of your output, you would place a /PARM <list of options> command at the top of your file. Due to buffering problems, specification of long underlines and/or bold face, may cause MUSIC to drop some characters from the output text. There is currently no remedy to this problem, other than eliminating the offending command(s). If this is not possible, for some reason, the alternatives are to run Waterloo/SCRIPT in batch mode, or use MUSIC/SCRIPT.

The buffering problem notwithstanding (remember this is a MUSIC problem, not a Waterloo/SCRIPT problem), there are many reasons a person might choose to use Waterloo/SCRIPT instead of MUSIC/SCRIPT. Waterloo/SCRIPT has several enhanced features over MUSIC Script, including

- bold typing (either by character, word, line or page)
- footnoting capabilities
- enhanced versions of the '.in' command;
- column formatting capabilities
- its own programming language for writing macros.

Waterloo/SCRIPT not only has a text processor but also libraries that can aid users in writing theses and other publications. These libraries are called SYSPAPER, SYSPUB and GML. More information about these libraries can be obtained by running the following program that will print off a manual; one for each library.

```
//jobname JOB (xxxx-xxxx,2,20,,0111)
//      EXEC SCRIPTMN, MEM=member, RGNSIZE=region, PROG=program
```

Where:

Waterloo Products	member	program	region
GML User's Guide	GMLUG	SCRIPTH	not needed
SYSPUB Manual	SYSPUBMN	SCRIPTH	not needed
SYSPAPER User's Guide	SYSPAPUG	SCRIPTH	not needed
Script User's Guide	SCRIPTUG	SCRIPTMN	320K
Script Reference Manual	SCRIPT	SCRIPTMN	320K

Any questions or problems should be directed to a member of the Academic Computing staff at the Computing Center (817) 565-2324.

Stop Unwanted Scrolling

If your terminal has a control key <CTRL>, you can stop and start your output at will. This is done by depressing the <CTRL> key and then, while still holding it down, depressing an S or a Q depending on what you want to do. Thus, <CTRL> Q will stop your output from scrolling off the screen (think of QUIT), and <CTRL> S will start it back up again.

Supported Terminal Types

Logging-on to MUSIC involves specifying a terminal type, either overtly - by typing it in after the ID-code (i.e. /ID XX99;MIME) or covertly - by having it stored in your PROFILE. Recently several new terminal types have been added to the list of those already supported by MUSIC, including some microcomputers. The following represents a complete list of those devices that are currently supported by MUSIC:

TTY	LA36	ACTV	MIME	MIMEP80
ADM3A	TI745	TI735	TRS80II	TRS80III
LA120	DIABLO	3270	ST80	VT100
VIC20				

Microcomputers and MUSIC

An article, "Microcomputer Software on MUSIC," appeared in the Sept/Oct issue of BENCHMARKS, Volume 3, Number 7. Once again, here it is.

INTRODUCTION

Because of the rapid growth in the use of microcomputers at NTSU we are providing a library of contributed programs and related documentation for your use. The library will continue to be built through the contributions of users of MUSIC--you may be among those contributors. If you have a program to contribute, please send a message, via MAIL, to SYSTEM, indicating your USER ID, and the name of the program. Any program you contribute should be your own or already in the public domain. It should not be one you have purchased from a Computer Store or other commercial enterprise. Likewise, these programs are available for your personal use, not for piracy and resale.

In a similar vein, any programs or other files on MICROLIB are made available for their educational and instructional value as well as the enjoyment of computer users at North Texas State University. Any programs or data are not warranted in any way by NTSU, by The Computing Center, or by Academic Computing. If the contributed programs do not work,

or if help and assistance is needed, please call the contributor, not Academic Computing. Academic Computing will be happy to assist you in using MICROLIB, but cannot take responsibility for contributions made by others.

CONTRIBUTIONS

While this service is conceived primarily for microcomputer users, if you have written a program for MUSIC you would like to share with others, please let us know. In order to use this service effectively you must have terminal software capable of "uploading" and "downloading" files to and from MUSIC. If you have a BASIC program on an APPLE you would like to share, for example, you would first need to save a copy of your program as an ASCII file on your APPLE system. You would then enter your terminal program and dial MUSIC. At that point you would need to upload the program to your USER ID. Once that is accomplished, you would then send a MAIL message to SYSTEM and we will take care of the rest.

If you wish to contribute a program, please make sure that you have placed comment statements at the beginning of the program in the following format:

- Program name and purpose
- Contributor's Name
- Contributor's Address and Phone Number
- Date Program was written (and/or last update)
- Date of Contribution
- Any operational notes required
- Bibliographic citation if the program has been published

In the case of compiled, machine language files, there is only one way such programs should be contributed. They should be in Intel's HEX format (either as the byproduct of compilation, usually on a CP/M system, or by UNLOADing a CP/M COM file). If you are using a TRS-80 with the ST80III communications program, ST80III comes with utilities to change CMD (the TRS-80 equivalent of the COM file) files to the Intel HEX format. In this event, you should also provide a DOC file with the information described above for each program contributed. On CP/M systems the HEX files can be turned back into COM files with the LOAD utility. COM files can be turned into HEX files with the UNLOAD utility (LOAD is a standard CP/M program, UNLOAD is from the CP/M Users Group Library and is included in this library).

Each program in the library has a three level name: `system.filename.filetype` "System" pertains to the type of system for which the program was written: CPM, TRS80, APPLE, MUSIC, etc. "Filename" is a simple name for the program of eight characters or less, beginning with an alphabetic character. "Filetype" is a three character sequence indicating the kind of file (BAS, for BASIC programs; DOC for Documentation; HEX, for HEX files; etc.). In order to determine whether there are any programs or files of interest to you, you can simply issue the MUSIC LIST command, as follows: `LIST MICROLIB.system` where "system" is a term as described above.

To get a list of the various systems for which some items may be available, issue the following MUSIC command: `LIST MICROLIB.SYSTEM` <exactly those words> This command will provide a correct list of applicable "systems". As of this writing the list is more a "wish" list for contributors than a list of real resources, although there are some files already on MICROLIB.

NOTES ON UPLOADING AND DOWNLOADING

In order to use MICROLIB you must be using a microcomputer as a "smart" terminal. That is, your communications equipment must have the capability for "uploading" and "downloading" files. This point has already been made, but cannot be forgotten. The general procedure for uploading from your micro to MUSIC is to load a file into your storage buffer on your micro. Go back to communications and invoke the MUSIC EDITOR using `EDIT` or `TEDIT` commands. Wait for the word `INPUT` to appear, along with the first prompt (?). Use your microcomputer terminal program to start the sending of data. When all data have been sent, go back to communications and press your `<ENTER>` or `<CARRIAGE RETURN>` key. This will terminate the `INPUT` function and return you to `EDIT`. Save your file. In general, you will find it difficult to upload a program or file to MUSIC when any line exceeds 80 characters in length. You may have to edit some files before transmission.

In order to download a file from MICROLIB decide which file you wish to have. `ReLOG` to your User ID using a terminal class which will not generate the `MORE` message: `/ID USERID;LA36`. Issue the MUSIC command `"LIST filename"` but do not press `<ENTER>` or `<CARRIAGE RETURN>`. Open a memory buffer on your microcomputer. Go back to communications and press `<ENTER>` or `<CARRIAGE RETURN>`. MUSIC will now start listing the file specified by "filename." When the entire file has been listed, close your memory buffer and save the file to disk (or possibly tape) on your micro. The file you have saved on your micro will have, at the beginning and end, some extraneous lines (usually of MUSIC messages). You must now use a text editor to take those extra lines out. If you are using a TRS-80 with `ST80III` you can, instead, issue the command to MUSIC, `ST80DOWNLOAD`. A downloading program which asks for filename and record length will then open the micro's memory buffer automatically and close it automatically. As we receive requests, and as it is possible, we will provide similar programs for other microcomputer communications programs and systems.

WHEN ALL ELSE FAILS -

If you need further help in using the MUSIC MICROCOMPUTER SOFTWARE LIBRARY, use `MAIL` to send inquiries to `SYSTEM` or call Academic Computing at 817-565-2324. On-line help may be obtained by entering: `LIST MICROLIB.DOC`

* * * * *
*
* H P - 2 0 0 0 *
*
* * * * *

HP 2000 Backup Schedule

Routine system backups are scheduled to be performed at the following times;

8:00 a.m. Monday through Friday for approximately 20 minutes.
4:00 p.m. Friday for approximately 1.5 hours.

New Telephone Numbers

Dial-up access to the HP-2000 may be obtained by dialing:

(817) 565-3300
565-3900
565-3899
565-3966

If one number is busy, try another one.

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GET A "SUBSCRIPTION" TO BENCHMARKS

BENCHMARKS is a vital link between the NTSU Computing Center and the users of our facilities. It is important for all users of the computing facilities to maintain a file of these newsletters because they contain materials which will periodically update existing documents as well as information and suggestions on uses of OS-MVT, MUSIC, the HP-2000, and other resources available to NTSU students and faculty. To facilitate the dispersal of BENCHMARKS, *** FREE *** subscriptions are now available. To receive yours, send the following information to us either by "snail mail" (the post office or campus mail) or electronically, through the MAIL facility on MUSIC.

Name _____

Mailing Address _____

PLEASE GIVE A CAMPUS ADDRESS (NOT BOX) IF POSSIBLE - It's Cheaper !

PLEASE RETURN TO:

Academic Computing Services
The Computing Center
NI Box 13495
North Texas State University
Denton, TX 76203